What causes cancer?

KS3 KS4 Ages 11-16 ⏰ 2 min read

Your body is made up of trillions of tiny building blocks called **cells**. Most of the time, these cells are incredibly well-behaved. They grow when they're supposed to, stop when they're supposed to, and even destroy themselves when they're old or damaged. But sometimes, cells start breaking these important rules — and that's when cancer begins.

Think of your cells like cars on a busy motorway. Normally, every car follows the speed limit, stays in its lane, and stops when the lights are red. But imagine if some cars suddenly ignored all the traffic rules — speeding, changing lanes wildly, and refusing to stop. That's what cancer cells do in your body.

When Good Cells Go Bad

Cancer starts when something damages the **DNA** inside a cell. DNA is like the instruction manual that tells each cell how to behave. When this manual gets corrupted, the cell might start multiplying non-stop, refuse to die when it should, or begin invading places where it doesn't belong.

Many things can damage DNA. Sometimes it's just bad luck — copying billions of DNA instructions perfectly every day is incredibly difficult, and occasionally mistakes happen. Other times, it's because of things we're exposed to, like certain chemicals in cigarette smoke, too much ultraviolet light from the sun, or some viruses and bacteria that can interfere with our cells.

Why Some People Get Cancer

Age is the biggest risk factor for cancer, simply because our cells have had more time to accumulate DNA damage. It's like an old car that's more likely to break down than a brand new one. Some people also inherit DNA that's already slightly damaged from their parents, which gives them a higher chance of developing certain cancers.

But here's the encouraging part: many cancers are preventable. Not smoking, eating plenty of fruits and vegetables, staying active, and protecting your skin from too much sun can all help keep your cellular traffic flowing smoothly.

The Body Fights Back

Your body isn't helpless against cancer. Your immune system works like security guards, constantly checking for cells that are behaving suspiciously. Most of the time, these guards catch the troublemakers before they cause serious problems. And when cancer does develop, doctors have many tools to help — from surgery to remove rogue cells, to medicines that can target them specifically.

Understanding cancer helps us respect our bodies and make choices that keep our cellular cities running smoothly for years to come.